

### **REMARKS**

Claims 1, 8-10, 14, 21-23, 27, 34-36, and 40-48 are pending in this application. Claims 10, 23, 36, and 40-42 are withdrawn. Claims 43-48 have been added. Claims 1, 14, 27, 43, 45, and 47 are currently independent.

### **Claim Rejection – 35 U.S.C. § 103**

Claims 1, 8-9, 14, 21, 22, 27, 34 and 35 have been rejected under 35. U.S.C. § 103(a) as being unpatentable over U.S. Patent Number 5,960,123 (“Ito”) in view of U.S. Patent No. 5,265,200 (“Edgar”). Applicant respectfully traverses this rejection.

Embodiments of claims 1, 14, and 27 are directed to an image processing method, and image processing apparatus, and a computer-readable recording medium, respectively. Claim 14, for example, is directed to an image processing apparatus (e.g., as shown in Figures 14 to 16), comprising

generating means for generating image data from an image (e.g., digital image data S0 obtained by a digital camera, obtained by reading an image recorded on a film, or obtained by reading a printed copy of an image),

multi-resolution conversion means (e.g., Fig. 14, multi-resolution conversion means 31) for obtaining one multi-resolution image data (e.g., RL, RM, RH; see Figures 15A, 15B, 15C) in each of a plurality of frequency bands (e.g., low, medium, and high frequency bands) by converting the image data into multiple resolutions, and contrast-sense quantification means.

The contrast-sense quantification means comprises:

extracting means (e.g., Fig. 14, area extracting means 32) for extracting, as a light portion, an area (e.g., M1) in which a pixel value is equal to or larger than a predetermined threshold value (e.g., Th7) from the multi-resolution image data (e.g., RL) in a first frequency band (e.g., low frequency band),

histogram generating means (e.g., Fig. 14, histogram generating means 33) for generating histograms (e.g., Fig. 16, histograms HM and HH) corresponding to the light portion (M1) for the multi-resolution image data in frequency bands (RM, RH) higher than the first frequency band, and

quantification means (e.g., Fig. 14, quantification means 34) quantifying the sense of contrast based on the histograms.

The Office Action alleges that when Ito and Edgar are combined, the quantification of a sense contrast of the image as taught by Edgar would be based on the multi-resolution image data in each of the plurality of frequency bands of Ito or would be based on the multi-resolution image data in frequency bands higher than the first frequency band of Ito. Applicant disagrees.

Applicant submits that Ito fails to teach the claimed “extracting means.” The Office Action indicates that the claimed extracting means is met by Ito’s emphasis processing means 3 (referring to Figs. 5 and 6, and col. 9, line 25 to col. 10, line 31). Although it appears that Ito may teach performing emphasis processing based on a comparison of picture element values to a threshold value, the claims require “extracting,” as a light portion, “an area” in which a pixel value is equal to or larger than a predetermined threshold value from the multi-resolution image data in a first of the plurality of frequency bands.

Furthermore, the claims require that the histogram generating means generates histograms “corresponding to the light portion in multi-resolution image data in the first frequency band.” The Office Action admits that Ito fails to disclose the claimed histogram generating means and quantification means (Office Action at page 4, bottom full paragraph). Instead, the Office Action relies on Edgar for making up for the deficiency. As mentioned above, the Office Action alleges that quantification in Edgar would be based on the multi-resolution image data in each of the plurality of frequency bands of Ito.

First of all, the claims require that the histograms be generated “corresponding to the light portion” extracted by the extracting means. Since Ito does not teach or suggest the claimed “extracting means” for “extracting” as a light portion an area, quantification in Edgar would not be based on the corresponding light portion of multi-resolution image data for a first frequency band. Thus, Applicant submits that Edgar does not make up for the deficiency of Ito of failing to teach the claimed “histogram generating means for generating histograms, corresponding to the light portion, for the multi-resolution image data in frequency bands higher than the first frequency band.”

Secondly, Edgar is directed to image correction based on a best fit regression of a gray scale histogram (blocks 54, 56 and 60). The claims require a quantification means for “quantifying the sense of contrast” based on histograms, corresponding to the light portion, generated for multi-resolution image data in frequency bands higher than the first frequency band. Presumably, the Office Action alleges that the best fit regression of the histogram constitutes quantifying the sense of contrast of an image. However, Edgar only teaches best fit

regression on a gray scale histogram. Applicants submit that even if Edgar's histogram and best fit were to be carried out using multi-resolution data of Ito, the combination would still fail to teach quantifying a sense of contrast for an image based on histograms for multi-resolution image data in frequency bands higher than the first frequency band. In other words, the alleged quantification in Edgar is for a single histogram, and as such each data of Ito would have its own gray scale histogram and associated best fit regression.

Third, Edgar does not teach generation of histograms for multi-resolution image data corresponding to a light portion of another multi-resolution image data in another of a plurality of frequency bands. In Edgar, a histogram is generated solely for an image data. Edgar does not teach generation of a histogram for image data that is dependent on other image data, i.e., histograms are generated "independent" of one another.

At least for the above stated reasons, Applicant submits that Ito and Edgar, either alone or in combination, fail to teach or suggest at least the claimed "extracting," "generating" and "quantifying" functions/steps as recited in the claims. Accordingly, the rejection fails to establish prima facie obviousness. Applicant requests that the rejection be reconsidered and withdrawn.

### **New Claims**

New claims 43 to 48 have been added. The new claims are directed to specific features of the embodiments claimed in claims 1, 14, and 27. Accordingly, at least for the reasons above for claims 1, 14, and 27, Applicant submits that the new claims are patentable as well.

**Conclusion**

In view of the above amendment, Applicant believes the pending application is in condition for allowance.

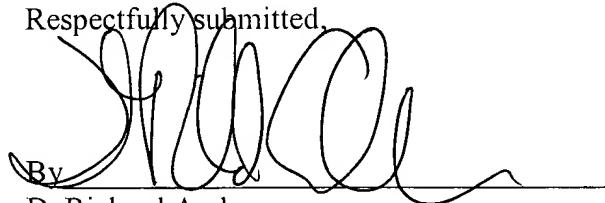
Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert W. Downs (Reg. No. 48,222) at the telephone number of (703) 205-8000, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

RWD



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